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IMPLEMENTATION OF AN INITIAL NETWORK FOR AN EPA OCEAN WASTE DISPOSAL INFORMATION CENTER IN THE NEW YORK BIGHT

INTERSTATE ELECTRONICS CORPORATION

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ENVIRONMENTAL PROTECTION AGENCY

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IMPLEMENTATION OF AN INITIAL NETWORK FOR AN EPA OCEAN WASTE DISPOSAL INFORMATION CENTER IN THE NEW YORK BIGHT

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ABSTRACT

This report, prepared by the Environmental Engineering Division of Interstate Electronics Corporation, Anaheim, California under EPA Contract 68-01-2214, describes the concept and develops the framework for the implementation of a Regional Information Center in the New York Bight area for ocean waste disposal management. This center is the first of a possible Initial National Network.

The purpose of the Information Center is to improve the exchange of information on programs related to ocean disposal of wastes and thereby improve effective management, regulation, and control of ocean disposal in the New York Bight area.

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INTRODUCTION

This report presents a description of the Information Center and its operation. The associated Information Center Catalog contains a summary of the specific activities of the agencies responsible for water quality monitoring and surveillance of ocean waste disposal operations in the New York Bight, along with other appropriate revisable information.

As presented, the Information Center is contingent upon the continued cooperation already demonstrated between Federal, state, and local government agencies. The primary role of the Information Center is to facilitate critical information exchange between various agencies. It is planned to serve the needs of permit administration, the requirements of enforcement and the various scientific needs of other users. The purpose of the Information Center is to bring into one central location a quick-response clearinghouse for assemblage of information related to ocean waste disposal in the New York Bight.

Initially, as manpower becomes available, the Information Center will be maintained by the U.S. Environmental Protection Agency (EPA) branch charged directly with the management responsibility of the ocean waste disposal sites. The actual location of the Information Center has not been specified due to ongoing regional assessment.

In the last few years the matter of waste disposal in the oceans has become one of national concern. While of great national concern, there is no evidence that ocean dumping is the most serious source of pollution in the Bight (1). Other contributing factors, which are major sources of pollution in the New York Bight, include sewer outfalls, river discharges, land runoff, vessel discharges, and accidental spills of materials both on land and in the sea. Until acceptable alternate methods of waste disposal are developed, ocean disposal will continue to be used. Ocean disposal is regulated, and potential hazards can be reduced through prudent permit administration. The designated disposal areas and point and nonpoint sources of coastal water pollution can be effectively managed through the use of an efficient management information system that possesses the capability and flexibility of being utilized by both Federal and state agencies.

Before increasing the information on overall water quality monitoring and surveillance of ocean disposal operations in the New York Bight, it was first necessary to supplement the information presented in "Coastal Zone Water Quality Monitoring in the New York Bight", (2) and "Ocean Waste Disposal in the New York Bight" (3). The history of ocean dumping practices in the New York Bight is well documented, and most of the data was compiled from one source - The COE Supervisor of New York Harbor. A chronology of the major events related to New York Bight (NYB) disposal practices is presented in "Ocean Waste Disposal in the New York Bight" (3).

The first phase of this program consisted of an indepth field survey to establish a working rapport with agency personnel and to obtain up-to-date information on their activities. Figure 1-1 provides the concept of an Information Center and shows the visited agencies and their respective positions relative to a New York Bight Information Center. Figure 1-2 is a operational matrix setting forth the primary ocean waste disposal functions of the agencies involved. A list of the proposed coordinators is presented in appendix A.

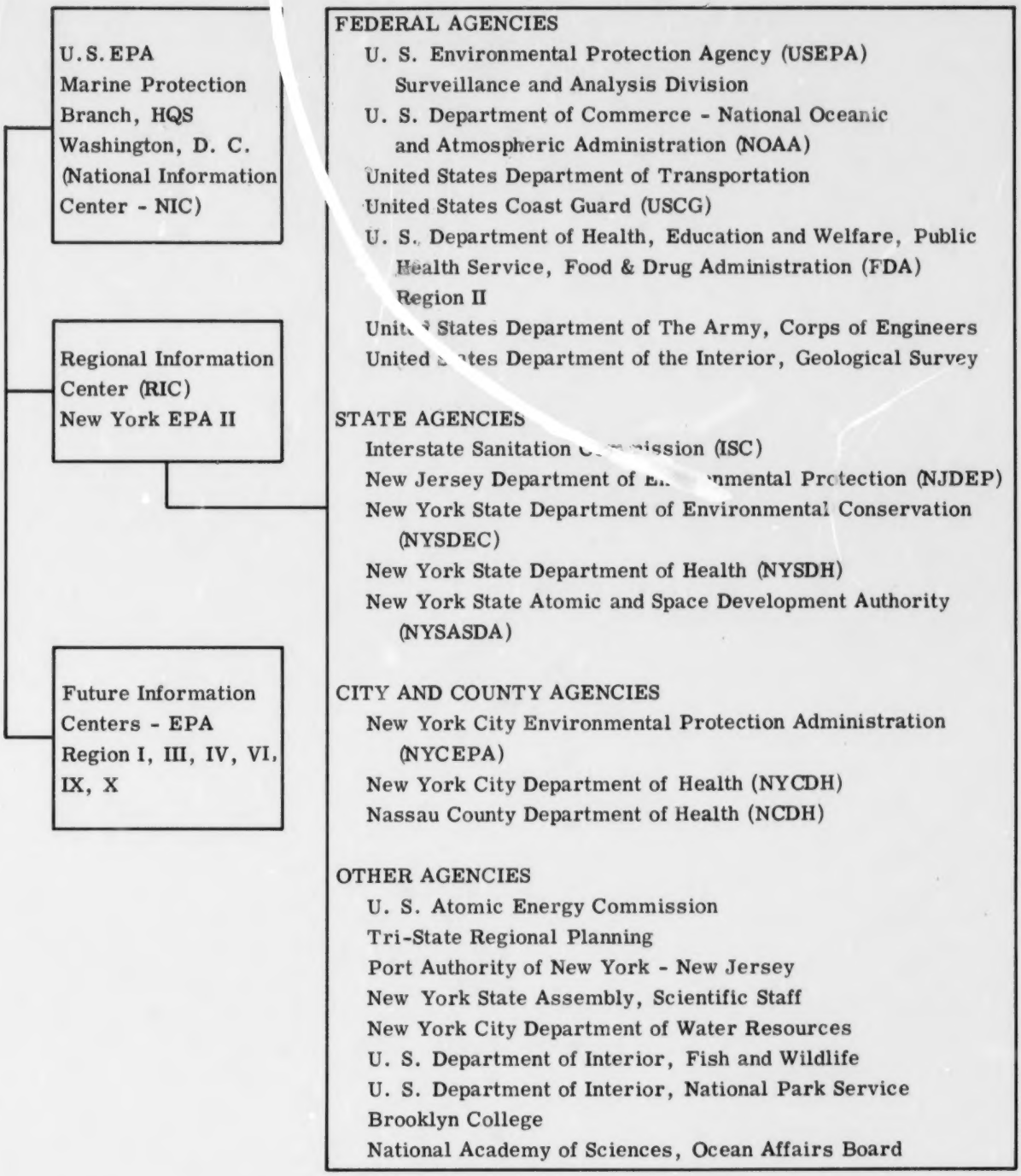
Numerous agencies, educational institutions, and private individuals are concerned with the environment in the apex of the New York Bight. The program is directed primarily toward establishing and implementing a cost-effective Information Center for immediate use by the fourteen major agencies with responsibilities for water quality monitoring and/or ocean waste disposal. The following agencies are involved:

- United States Environmental Protection Agency (EPA)
- National Oceanic and Atmospheric Administration (NOAA)
- United States Coast Guard (USCG)
- Food and Drug Administration (FDA)
- United States Army Corps of Engineers (COE)
- United States Geological Survey (USGS)
- Interstate Sanitation Commission (ISC) (for the states of New York, New Jersey, and Connecticut)
- New Jersey Department of Environmental Protection (NJDEP)
- New York State Department of Environmental Conservation (NYSDEC)
- New York State Department of Health (NYSDH)
- New York State Atomic and Space Development Authority (NYSASDA)
- New York City Environmental Protection Administration (NYSEPA)
- New York City Department of Health (NYCDH)
- Nassau County Department of Health (NCDH)

INFORMATION CENTER CONCEPT

EPA has recognized the need for and the desirability of free exchange of information between the agencies actively involved in water quality improvement programs. As a first step toward improving the exchange of information related to ocean disposal activities and ongoing research, it was considered feasible to initiate an Information Center for the New York Bight. Such a center can operate only through extensive cooperation from those people who are involved in activities within the area.

The concept of the Information Center is basically a communication system through which data and information related to ocean waste disposal and water quality is controlled and exchanged between local, state, and Federal organizations for the purpose of implementing the objectives of the Environmental Protection Agency and the tentative


U.S. EPA
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Branch, HQS
Washington, D. C.
(National Information
Center - NIC)
Regional Information
Center (RIC)
New York EPA II
Future Information
Centers - EPA
Region I, III, IV, VI,
IX, X
FEDERAL AGENCIES
U. S. Environmental Protection Agency (USEPA)
Surveillance and Analysis Division
U. S. Department of Commerce - National Oceanic
and Atmospheric Administration (NOAA)
United States Department of Transportation
United States Coast Guard (USCG)
U. S. Department of Health, Education and Welfare, Public
Health Service, Food & Drug Administration (FDA)
Region II
United States Department of The Army, Corps of Engineers
United States Department of the Interior, Geological Survey
STATE AGENCIES
Interstate Sanitation Commission (ISC)
New Jersey Department of Environmental Protection (NJDEP)
New York State Department of Environmental Conservation
(NYSDEC)
New York State Department of Health (NYSDH)
New York State Atomic and Space Development Authority
(NYSASDA)
CITY AND COUNTY AGENCIES
New York City Environmental Protection Administration
(NYCEPA)
New York City Department of Health (NYCDH)
Nassau County Department of Health (NCDH)
OTHER AGENCIES
U. S. Atomic Energy Commission
Tri-State Regional Planning
Port Authority of New York - New Jersey
New York State Assembly, Scientific Staff
New York City Department of Water Resources
U. S. Department of Interior, Fish and Wildlife
U. S. Department of Interior, National Park Service
Brooklyn College
National Academy of Sciences, Ocean Affairs Board

Figure 1. Network of Agencies Ocean Waste Disposal Regional Information Center, Initial Network, New York Bight

Agency	Permit Administration	Disposal Surveillance and Enforcement	Public Health Advisory	Water Quality and Sediment Monitoring	Water Quality, Sedimentary, Heavy Metal and Pesticide Analysis	Data Base Maintenance	Research Vessel	Computer and STORET User	Test Van	Annual Reports	Special Subject Reports
FEDERAL											
EPA, II	X	X		X	X	X	X	X	X	X	X
EPA, PNERL				X	X	X	X	X	X		X
NOAA											
NMF				X	X	X	X				X
MESA				X	X	X	X				X
SEA GRANT				X	X	X	X	X			X
COAST GUARD	X	X		X			X				
FDA, PHS			X	X	X	X				X	X
COE	X	X				X		X			
GEOLOGICAL SURVEY				X	X	X		X		X	X
STATE											
ISC				X	X	X		X		X	X
NJDEP			X	X	X	X					
NYSDEC			X	X	X	X					
NYSDH			X		X	X					
NYSASDA				X	X	X					
CITY AND COUNTY											
NYCEPA				X	X						
NYCDH			X	X	X	X					
NCDH				X	X						

As of January 1975

Figure 2. Ocean Disposal Operational Matrix

subscribers. The Information Center design and development considers planning and agreements between organizations and personnel and the relation of these to training, jurisdiction, data exchange, data analysis, and functional monitoring responsibilities. Effective communication is a prime prerequisite to the operational success of an Initial Network. Cooperation of all participating agencies is required to assure uniformity, completeness, and continuity and maximize use of the Information Center.

Designed to establish key data/information, permit data analysis, trend identification, and problem solution, the Information Center would be the focal point and center of operation to perform key functions in the network structure. Interactive terminals and/or computer systems designed to communicate with national or state-based computer centers are one of two types of network interfaces which may be featured by the Information Center. Another configuration may use a stand-alone computer in the future, establishing data input/output interfaces with the users via interactive terminals. In the minimal sense, the Information Center may be the focal point for monitoring or it may be considered to require network input data to support a relatively sophisticated capability for data analysis and trend identification.

The data input is a major function of the network, which will feature extensive data storage and retrieval capability at the information centers. Eventually four basic types of data will be handled:

- Raw data
- Technical report data.
- Administrative and enforcement data.
- Control data.

In addition to providing communication linkage between organizations involved in ocean waste disposal programs, the Information Center should, in time, provide the following functional capabilities to user organizations:

- Central file storage of all pertinent data and information generated by system users.
- User retrieval from archival storage of data and previously entered information.
- Statistical and other computations performed on data directly entered or retrieved from central file storage.
- Manipulation of retrieved data in a desired report format.
- Control of user access to central file storage for data modification.

INFORMATION CENTER ASSUMPTIONS

1. There is a pressing need for a better understanding of the marine ecosystems at existing ocean disposal sites.
2. Techniques and procedures in environmental monitoring have failed to provide orderly baseline data acquisition, data verification, and interactive exchange among the various responsible agencies.
3. There is a need by numerous Federal, state, and local agencies for the centralized coordination of information by a responsive Information Center.

INFORMATION CENTER GOALS

1. Provide, coordinate, and develop information visibility related to ocean waste disposal activity, permit administration, disposal site management, ecosystems trends, critical environmental issues, current research programs, data collection, data processing, data availability, and projected programs related to ocean waste disposal.
2. Development of a catalog for the ocean disposal program containing site descriptions, a brief history, current utilization, and ongoing agency programs. The catalog identifies data sources and presents brief descriptions of continuing research projects. The catalog can have periodic updating.
3. Distribution and systematic amplification of ocean disposal guidelines and site monitoring requirements.

FUNCTIONS OF THE INFORMATION CENTER MANAGER

Functions of the manager of the Information Center (IC) include, but are not limited to, the following:

1. Direct the operations and services at the center.
2. Determine the most effective distribution and use of the IC catalog.
3. Establish updating requirements for the IC catalog on the basis of user demands.
4. Consult regularly with the IC coordinators of other agencies regarding identification of possible steps to improve operations.
5. Review workloads, capabilities, and available personnel of other agencies participating in the IC to gain early awareness of capabilities and announce these through the catalog.
6. Provide EPA technical findings and proposed and final regulation guidelines to the appropriate Federal, state, and governmental coordinators.

7. Coordinate demands such as correspondence, workshop participations, and technical reports placed upon the IC.

8. Evaluate IC operations on basis of original IC objectives and determined appropriate areas for improvement.

9. Contribute to the future planning, development, and role of the IC.

INFORMATION CENTER COORDINATION ROLE

The management responsibility for ocean disposal in Region II is the Surveillance and Analysis Division at Edison, New Jersey. An Information Center in EPA Region II at the Surveillance and Analysis branch in Edison, New Jersey is currently under final consideration. The general basic requirements for the Information Center were coordinated with the Division Director, Mr. Richard T. Dewling; the chief of the Surveillance and Monitoring Branch, Dr. Richard D. Spear; and the chief of the Marine Protection Program, Mr. Peter Anderson.

Decision makers should use a management information system to select and implement action essential to the establishment of a dynamic equilibrium between the man-induced processes and the processes of the natural environment. The objective of such a system is to provide decision makers with the necessary information and data upon which to make administrative decisions. Numerous activities in research, private, industrial, and governmental agencies are involved in ocean waste disposal and water quality monitoring. They may contribute water quality data that can be used in the system, and/or they are users of data from the network. Their numbers will increase, and they will impose new demands on the system, which must be considered in terms of design flexibility.

There is a need for centralized coordination for data management because the user groups are heterogeneous and for the most part operate via independent charter. Acquiring monitoring data is one of EPA's important functions. Environmental monitoring is defined as the systematic collection and evaluation of physical, chemical, biological, and related environmental data and is an activity within the broader concept of an information system. Within EPA, monitoring covers a broad range of activities from surveillance of an individual pollutant source to large scale monitoring activities aimed at the establishment of environmental baselines. Monitoring is essential to the establishment of environmental standards, and it is important for the enforcement of those standards.

The initial NOAA-MESA effort will be implemented concurrently with an Information Center in the New York Bight. A cost-effective Information Center uses numerous educational institutions and consortiums engaged in scientific studies of the Bight presently being integrated by the MESA program. NOAA has the scientific research

and monitoring responsibilities for ocean waste disposal, pollution, and regulatory authority under the EPA. The two initial programs, EPA and MESA, form a comprehensive management and scientific effort to protect the marine environment.

The Information Center is a simple concept; basically, the Center should receive and distribute information on ocean waste disposal in the New York Bight at monthly intervals. This information should include completed work, location of available data, current work status, principal program coordinators, and projected work for the next six months, year, or longer. This material can be easily obtained by the IC coordinator once a month from each agency coordinator, retyped in a standard format, and mailed to each agency for insertion into the catalog, either as a new page or replacement of an existing page. If this were done regularly, at a cost of two man-days per month, every agency involved with some aspect of ocean waste disposal in the New York Bight should be informed and possibly improve its schedules and planned operations for New York Bight studies and management.

THE INFORMATION CENTER CATALOG

The Information Center Catalog (appended to this report) includes the data necessary to locate primary information sources on ocean waste disposal operations, surveillance, water quality monitoring, and trends in environmental parameters. The catalog has been designed as a looseleaf notebook to facilitate revision and expansion as required.

The following information is in the catalog, and each section can be regularly updated by the Information Center coordinator:

- Chart of disposal area
- Summary of disposal sites
- Chart of disposal sites
- Operational assumptions and manager functions
- Current disposal literature search and bibliography
- List of Information Center coordinators
- Agency roles and functions
- Disposal site history
- MESA Advisory Committees and findings

SUMMARY OF BACKGROUND INFORMATION

Narrow-mouthed bays, estuaries, and other semi-enclosed areas are classified as internal waters. The territorial sea, which extends for three miles, is seaward of the internal waters and the low-water line along uninterrupted coasts. The contiguous zone, between three and twelve miles from the shore, and the waters lying seaward of it comprise the high seas. Each zone has distinct legal characteristics affecting rights to dispose of materials in it and to control such disposal.

New York State and New Jersey State regulations did not establish a basis for a comprehensive method of controlling ocean dumping in the contiguous zone of the New York Bight. There has been a general lack of authority and programs, and state jurisdiction is limited to the three-mile territorial sea.

The U.S. Army Corps of Engineers (COE) District Engineer, New York, was designated Supervisor of New York Harbor under the Rivers and Harbors Act approved by Congress in 1899. Pursuant to the provisions of that act, the Supervisor designated certain areas off the entrance to the New York Harbor as waste disposal grounds and conducted a program of issuing permits to towing firms that transported the waste materials. (4)

Originally, the COE was the only agency with regulatory authority to control dumping in the New York Bight. This authority stemmed from Corps responsibility for maintaining navigable waterways in U.S. territorial waters. In general, the Corps did not have regulatory authority other than in internal navigable waters and in the territorial sea.

The Marine Protection, Research, and Sanctuaries Act PL 92-532 of 1972, as amended, authorizes the Administrator of the U.S. Environmental Protection Agency (EPA) to strictly regulate ocean dumping and to issue permits for the disposal of wastes. The COE will continue to issue permits for ocean dumping of dredged materials upon concurrence by EPA.

Under this act, the U.S. Coast Guard is authorized to conduct surveillance and enforcement to prevent unlawful dumping, and the U.S. Department of Commerce National Oceanic and Atmospheric Administration is responsible for monitoring dump sites and conducting comprehensive research on the effects of ocean dumping.

The New York Bight Disposal Area is shown on figure 3. The New York Bight Disposal Sites and a listing of the sites are shown on figure 4 and table 1.

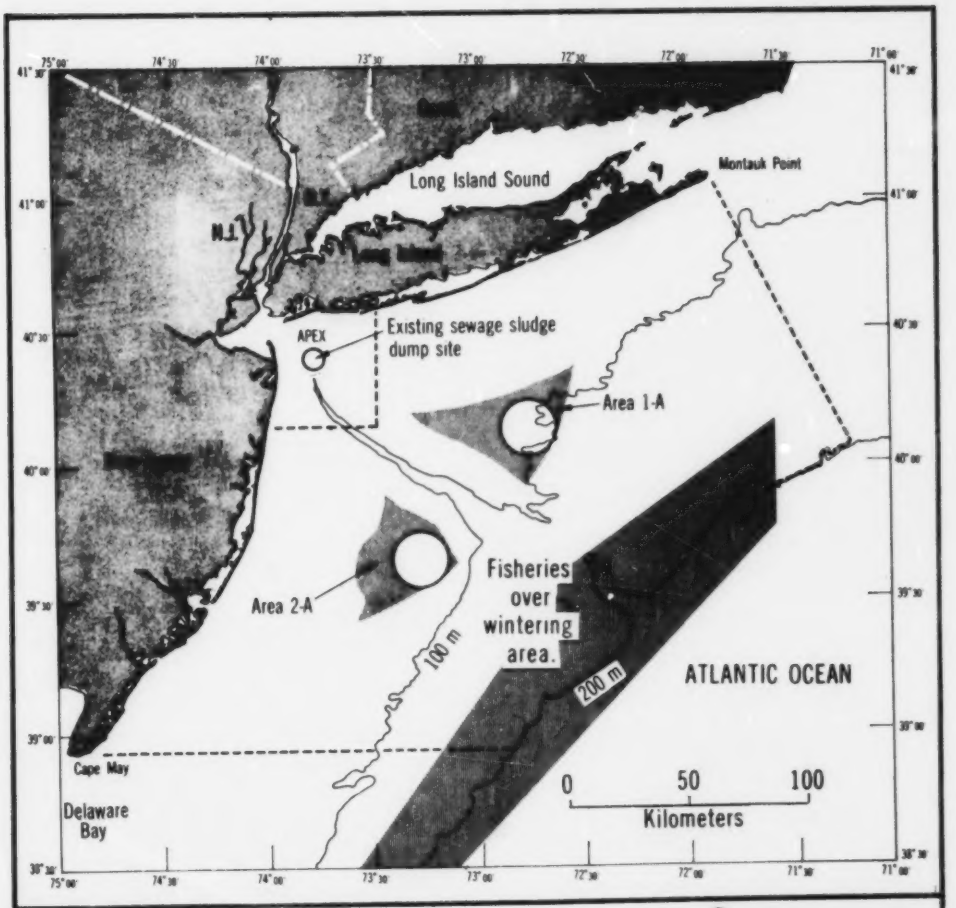

Figure 3. New York Bight Disposal Area

January 1975

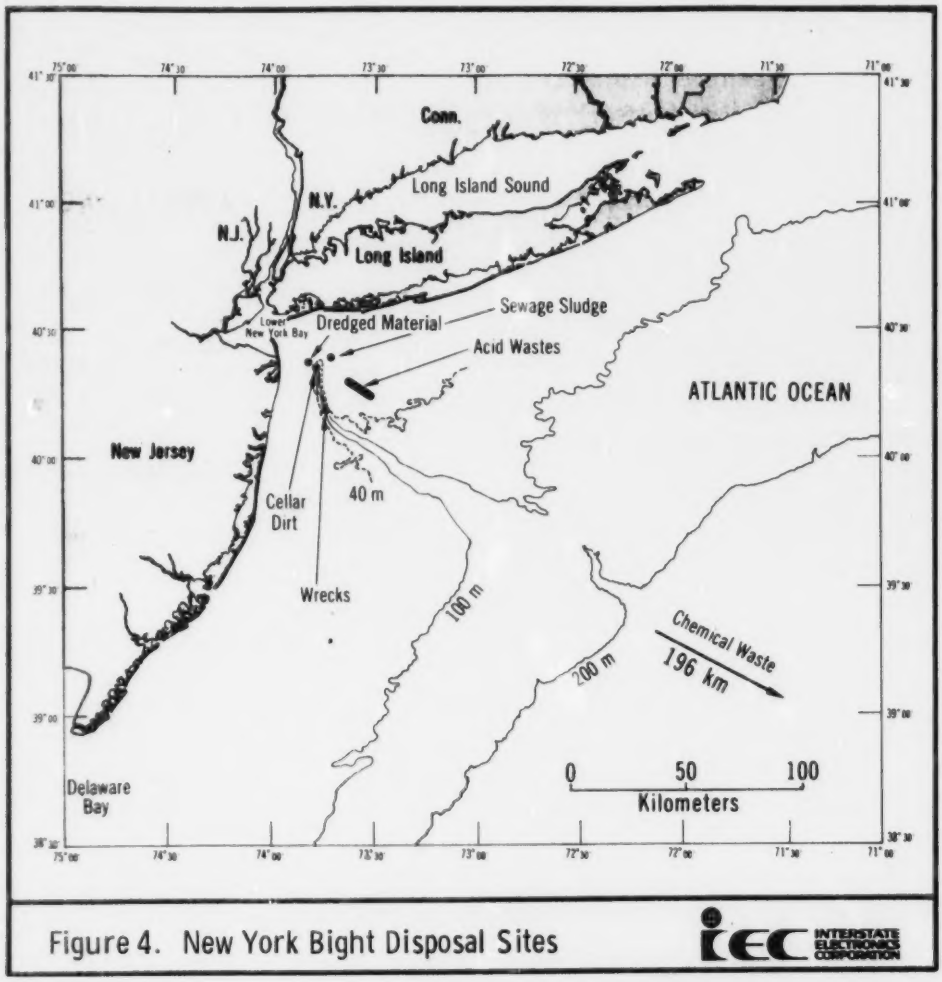

Figure 4. New York Bight Disposal Sites

TABLE 1. SUMMARY OF REGION II DISPOSAL SITES

Location - Latitude, Longitude	Size (N. Mi. Sq.)	Primary Use
$40^{O}22'30''N$ to $40^{O}25'0''N$ $73^{O}41'30''W$ to $73^{O}45'0''W$	6.56	Sewage Sludge
$40^{O}16'N$ to $40^{O}20'N$ $73^{O}36'W$ to $73^{O}40'W$	12	Acid Waste
$38^{O}40'N$ to $39^{O}0'N$ $72^{O}0'W$ to $72^{O}30'W$	450	Chemical Waste
	Radius (N. Mi.)	
$40^{O}24'N$, $73^{O}51'W$	0.6	Mud (dredged material)
$40^{O}23'N$, $73^{O}49'W$	Do.	Cellar Dirt
$40^{O}13'N$, $73^{O}46'W$	Do.	Wreck Dumping

REFERENCES

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Coastal Engineering Research Center
G. P. Carayannis, Technical Memorandum No. 39
OCEAN DUMPING IN THE NEW YORK BIGHT: AN ASSESSMENT OF ENVIRONMENTAL STUDIES
May, 1973

(2) Interstate Electronics Corporation
COASTAL ZONE WATER QUALITY MONITORING IN THE NEW YORK BIGHT
Report No. 445-B1, EPA Contract No. 68-01-0160
April, 1973

(3) Interstate Electronics Coroporation
OCEAN WASTE DISPOSAL IN THE NEW YORK BIGHT
Report No. 4460C1559, EPA Contract 68-01-0796
August, 1973

(4) DRAFT, ENVIRONMENTAL STATEMENT
Supervisor of the Harbor, U. S. Army Engineer, New York District
PERMIT PROGRAM FOR WASTE DISPOSAL IN THE ATLANTIC OCEAN
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APPENDIX

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